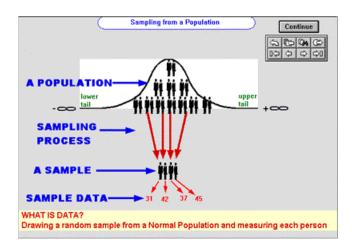


A New Approach to Sampling in the Quality Assurance Program



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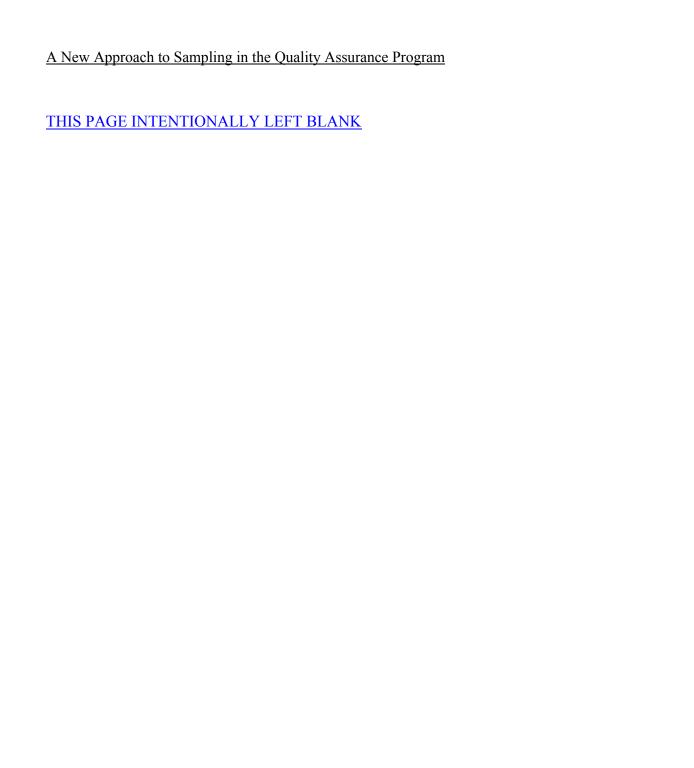
Handbook Accompanying

Session #12
Controlling the Quality of Verification:
Verifying a Sample of ISIR Records

U.S. Department of Education

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FORWARD

- Are you looking forward to your next program audit?
- Do you relish explaining the rationale for your institutional verification criteria to students who question why they have been singled out?
- Are you sure that all of your disbursements of federal, state, and institutional needbased aid resources are based on accurate ISIR data?

If you answered "No" to any of these questions you would benefit from finding out more about the effectiveness of your institutional verification selection criteria. Ignorance may be bliss to those without responsibility, but as a financial aid professional you are accountable for the proper stewardship of public and private resources you manage.

- Would you like to be able to address questions of auditors and students with a solid empirical basis for your verification procedures?
- Would you like to know what types of students your current institutional verification efforts are missing?
- Would you like to identify efficient means of improving your verification efforts?

If you answered, "Yes" to any of these questions, the sampling procedures outlined in this document will help you accomplish these goals. By confirming the accuracy of ISIR information supplied by a random sample of your aid applicants you will be in the position to defend your verification practices and improve the accuracy of the aid awards you disburse in the future.

A New Approach to Sampling in the Quality Assurance Program

INTRODUCTION

As you know the Quality Assurance (QA) Program will ask participating schools to draw a random sample of aid applicants who are eligible for need-based air as a program requirement for the upcoming award year 2004-05. This document will prepare you to carry out this exercise with as little disruption to your regular processing of aid as possible. FSA pilot tested sampling with a few schools a year ago (award year 2001-02). These schools were able to analyze sample data with the ISIR Analysis Tool and identify types of students who should be added to their institutional verification profiles. By sharing the challenges they experienced when conducting their samples with FSA, pilot schools have helped us to develop a plan to help all schools succeed with sampling.

FSA understands that drawing a quality control sample will impose a non-trivial burden on the schools participating in the QA Program. Therefore, sampling will be required only every other year. This approach balances the need of maintaining up to date information on the effectiveness of institutional verification with the competing demands placed on financial aid office staff. An every-other-year approach will also allow institutions to fully implement changes stemming from analysis before data are collected again.

This document contains four sections. The first section provides background information both for readers who might be new to the QA Program and for "old hands" as well. It is important to remind everyone at this juncture of all the changes that have occurred within the QA Program over the recent years. The remaining text is devoted to answering the utilitarian questions that may be your mind on right now. These questions are:

- Why do I have to sample?
- What do I have to do?

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• When do I have to do it?

By providing the answers to these questions, we hope this document reduces any anxiety you may be feeling toward sampling. We also hope that this document will serve as a helpful guide as you return to your campuses to plan your sample this fall and carry out your sample of 2004-05 ISIR records this coming spring and summer.

BACKGROUND

The Quality Assurance (QA) Program of the U.S. Department of Education (ED) helps schools manage the delivery of Title IV funds at participating postsecondary schools. In lieu of following federally prescribed verification of institutional student information records (ISIR) for applicants "flagged" by the Central Processing System (CPS), schools participating in the QA Program are empowered to develop their *own institutional* process of verifying the accuracy of ISIR data. The information on ISIR records reflects student responses on the Free Application for Federal Student Aid (FAFSA). The ISIR data are used to calculate the students' expected family contribution (EFC) toward their postsecondary expenses. The difference between the total price of attending a specific college or university and a student's EFC determines his or her eligibility for need-based Federal Student Aid (FSA) programs.

The ISIR Analysis Tool (Tool) was developed by FSA to allow postsecondary schools to analyze the changes made to ISIR data resulting from verification in terms of their impact on EFC and Pell Grant eligibility. By identifying the ISIR data fields and the types of students most likely to experience a change in aid eligibility, analysis supported by the Tool allows schools to fine tune their own verification process. The ISIR Analysis Tool (formerly the Quality Analysis Tool) compares two ISIR transactions, the initial and the paid-on transactions. Because multiple ISIR fields may change between the two transactions, the Tool cannot establish a direct causal connection between a change in a particular data element and the corresponding change in EFC or Pell eligibility. Instead, the Tool is designed to do the following:

• Identify the relative frequency of changes in ISIR fields;

¹ Initial transaction usually is the first nonrejected ISIR received by the school. The paid-on transaction is the ISIR information upon which an aid disbursement is made.

- Identify the corresponding frequency of changes in the EFC and Pell eligibility; and
- Determine (in light of the analysis) which user- defined sub groups of students should be targeted by institutional verification.

For the past three years, QA Program participants have used the Tool to evaluate the corrections stemming from their current verification efforts and from any other changes that students make on their own. Analyses of these data were able to identify groups of students that are currently subjected to institutional verification with little or no impact upon their eligibility for need-based aid. Schools were also able to confirm the need to continue verifying other groups of students currently subjected to verification.

However, these data could not be used to identify the students among those not currently subjected to verification who should have been verified. That is, applicants who would have experienced a substantive change to need-based aid had they been verified.

In the past, the QA Program required participants to draw a random sample of aid recipients after classes had started, check the accuracy of ISIR information, adjust awards in light of any discrepant information found, and analyze discrepancies to identify areas of their aid delivery process in need of quality improvements. This methodology served the program well for over a decade, but it presented a number of problems. First, it placed an additional data gathering burden on participating schools. It also required schools to adjust aid awards for students after they had begun their studies. Finally, given the timing of the sample (fall), QA Program schools had limited opportunity to implement corrective actions by the time they started processing the next year's applications (as early as January). Because of this timing issue, quality improvements were often limited to problems uncovered two years ago.

These issues led to the development of the Tool. This utility allowed schools to use the information supplied by ED during the aid awarding process (ISIR files) rather than requiring a separate data-gathering effort. This feature was key to making the Tool available to schools of higher education not participating in the QA Program. It also allowed schools to begin analyzing their data as soon as the ISIR files pulled down from the CPS included a sufficient number of changes stemming from routine institutional verification efforts. This analysis could begin as early as March for some schools. This timing greatly enhances the ability of participants to implement changes in their institutional verification procedures in time for the next academic year.

Sampling was discontinued with the adoption of the Tool as the new analysis software. To take advantage of the full analytical potential of the Tool, however, schools must make any and all changes to ISIR items on the verification worksheets for all the records being analyzed. The ability to support this type of "what-did-we-miss?" analysis was the reason QA Program schools used to draw random samples of aid recipients each fall.

This manual is your guide to the new approach to sampling in the QA Program. Under this new approach, sampling will allow you to confirm the accuracy of verification procedures without relinquishing the timing and data advantages ushered in by the Tool. In essence, you will get the best of both worlds. Let us turn now to answering the questions that may be on your mind.

A New Approach to Sampling in the Quality Assurance Program

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WHY DO I HAVE TO SAMPLE?

We could almost hear the collective groan when we decided to propose sampling as a program requirement. We realize that sampling adds work, but sampling will be substantially less onerous than it was under the old methodology. If done on schedule, it should not result in student aid being retroactively adjusted after disbursement. While schools will be asked to collect federal verification documentation from students they would not otherwise verify, the amount of additional data entry required will be minimal. In fact, the only pieces of information that schools will need to maintain are: 1) social security numbers, 2) first two characters of last names, 3) transaction numbers for the initial and paid-on ISIR for students, and 4) institutional verification status of students who are randomly selected in the sample. With the advent of the FSA ISIR Data Mart, schools will have ready access to all the ISIR data they need for analysis via the web, throughout the award year.

Still, QA Program participants deserve an explanation as to why sampling is being required.

You Cannot Know Until You Check

First and foremost, documenting the accuracy of ISIR information for students not normally selected for verification is the only way schools can find out what their institutional verification procedures may be missing. The only way to know for sure whether or not ISIR information is correct is to verify it. This piece of information is simply not available in the ISIRs used for routine aid processing for the students that are not verified.

While schools need to examine the accuracy of ISIR data among students they don't usually verify, they do not have to look at every single aid applicant. We realize that most QA Program schools would balk at conducting 100 percent verification of ISIR data. By carefully

following the sampling rules spelled out in the "What do I have to do?" section, schools will be able to make valid generalizations, from a random sample of relatively few (350) students, to their entire aid population. These rules must be followed carefully in order for the data to be representative of a school's aid population.

Why 350?

Some of the more "statistically hip" schools may wonder why we have set the sample size at 350. In setting the minimum sample size at 350, FSA is attempting to balance the competing desires of collecting enough information to support meaningful analysis and conclusions with minimizing the burden of sampling placed on schools. We also tried to anticipate a fair degree of attrition from the sample of aid applications to the final population of interested aid recipients. Finally, in order to make communication as clear as possible, we wanted to have a single required minimum sample size for all QA Program schools.

There are four main factors that influence setting the appropriate sample size:

- The amount of variation in the outcome of interest;
- The level of precision desired in the analysis of data;
- The level of statistical significance desired; and
- The size of the population from which the sample is drawn.

All else being equal, the greater the variation in the measure(s) of interest, the greater precision in measurement, the more statistical certainty, and the larger the population, the more cases you need to sample.

AIR conducted a power analysis of the number of ISIR records that QA schools would need to sample given a variety of assumptions. We focused on two outcome measures of interest, changes to EFC and changes to Pell. We based estimates for the variation in these two measures on data collected from schools that participated in the pilot study. Among these schools, 44

percent of the records experienced a change to EFC and 30 percent experienced a change in Pell eligibility. The tables below indicate alternative assumptions for the level of precision desired and the size of the student aid population from which the sample is drawn. We assumed a constant statistical significance level of .05 for all calculations.

Table 1: Sample size needed to detect differences in changes to EFC with the indicated level

of precision and population size

| | Precision | | |
|-----------------|--------------------|------------------------|----------------------|
| Population Size | 1 percentage point | 5 percentage points | 10 percentage points |
| Infinite | 9452 | 378 | 95 |
| 20000 | 6419 | 371 | 94 |
| 10000 | 4859 | 364 | 94 |
| 5000 | 3270 | 352 | 93 |
| 1000 | 904 | 275 | 86 |
| 500 | 475 | 216 | 80 |
| 100 | 99 | 79 | 49 |

Table 2: Sample size needed to detect differences in changes to Pell with the indicated level

of precision and population size

| | Precision | | |
|-----------------|--------------------|------------------------|----------------------|
| Population Size | 1 percentage point | 5 percentage points | 10 percentage points |
| Infinite | 8113 | 325 | 81 |
| 20000 | 5772 | 319 | 81 |
| 10000 | 4479 | 314 | 80 |
| 5000 | 3094 | 305 | 80 |
| 1000 | 890 | 245 | 75 |
| 500 | 471 | 197 | 70 |
| 100 | 99 | 77 | 45 |

We used these two tables when setting the minimum sample size at 350. QA Program schools vary in terms of how many students they deliver aid to. However, nearly all would fall between 1,000 and 20,000 aid recipients. Concentrating on the moderate precision level of five percentage points, the power analysis finds that appropriate sample sizes would be between 275

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and 371 for examining changes to EFC and 245 and 319 for examining change to Pell. In order to minimize burden on schools, we based our sample size on the Pell analysis. We inflated this range to 350 cases in order to allow for the expected attrition that will occur from the population being sampled (applications) before it becomes the population of interest (aid recipients).

Please note, schools with fewer than 1,700 aid applicants should set their sample size to 20 percent of their aid population. Contact your regional representative if you have any questions.

WHAT DO I HAVE TO DO?

FSA will require each school to perform seven activities as part of the sampling process. We would like to stress that these sampling activities are to be *in addition* to normal institutional verification efforts. Schools participating in the QA Program *still need* to verify all students who meet their institutional selection criteria. The following table identifies the steps of this extra sampling process and reveals that only the first four steps constitute "new work" for participants in the QA Program.

TABLE 3: SEVEN Required Steps of Sampling

| Step | New activities | Current Activities |
|------|--|---|
| 1. | Complete Sampling Plan Worksheet online at http://ifap.ed.gov/quality assurance. | |
| 2. | Randomly select at least 350 students (non-duplicate ISIR records) from your aid applicant population that demonstrates financial need. | |
| 3. | Compel each student drawn into the sample to complete the applicable federal verification worksheet by placing a hold on their aid disbursement until they comply. | |
| 4. | Submit ALL changes stemming from the sample verification process (that exceed federal tolerance) through the central processor. Keep track of transaction number of corrected ISIRs. | |
| 5. | | Import data and apply institutional verification profiles. |
| 6. | | Analyze changes to ISIR information within your sample with the ISIR Analysis Tool. |
| 7. | | Apply the results of your analysis in improving your institutional verification procedures. |

We expand on each of these steps below.

Sampling Plan Worksheet

Before embarking on your sampling requirement it is essential that you plan for each of these activities. As we will discuss further in the "When do I do it?" section, schools will need to tailor the timing of their sampling, documentation, and analysis activities according to their unique circumstances. Despite the need to accommodate different schedules, it is important that each school have a schedule.

FSA has prepared an online Sampling Plan Worksheet that will help schools make and stick to their schedule. Schools will enter an estimated timeline for completing each of the sampling steps in their online worksheet. Schools will return to the website to mark their progress as milestones are reached over the course of the spring and summer. The online system will generate automated email reminders to schools when an expected report of progress is more than one week late. FSA will also use this system to monitor the progress schools are making in their sampling activities and identify schools that may be in need of assistance.

Randomly Sample 350 Applicants

We are requiring every school to randomly sample at least 350 of their aid applicants who are eligible for need-based aid.² Schools may decide to sample more, but they must place a hold on aid disbursements to all students sampled until he or she completes a federal verification worksheet. For example, schools may not sample 500 aid applicants and stop their sample-based verification efforts when they reach 350. They may, however, randomly sample 500 ISIRs early in the spring and concern themselves only with the subset of these early applicants who actually end up attending and receiving aid at their institution.

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² Schools with fewer than 1,700 aid applicants should set their sample size to 20% of their aid population.

While attrition from the original sample will decrease the statistical power of subsequent analysis, it will not pose a problem in terms of inferring results from the sample data to the population of interest. Title IV schools are responsible for the accuracy of the aid awards they disburse, not for the accuracy of information on every ISIR that contains their school's identification code. Therefore, the population that schools are interested in analyzing is their aid recipients—not applicants. Applicants without a paid-on transaction—a disbursement of aid—are deleted from the Tool's database during the validation process. Therefore, the loss of these cases from the original sample does not threaten the validity of subsequent analysis.

The online version of the Tool, being prepared for 2004-05, has a limit of 500 pairs of initial and paid on ISIRs. That is, schools will only be able to import and store data from a maximum of 500 applicants in their online database at any given time. Schools could analyze one set of 500 applicants, delete these records, and then import a second group of 500, but only 500 students would be available for analysis at any one time. If schools attempt to add ISIRs in excess of the 500 cap, a random sample selection process within the Tool will be applied to keep the size of the database within the limit.

Schools can use this built-in capacity of the Tool to select their sample of 350 ISIRs.

Unfortunately, this capacity of the online Tool will not be available until the end of June 2004.

This timing may pose a serious challenge for completing the documentation process prior to aid disbursement in the fall. Fortunately, many schools have experience drawing random samples under the old QA methodology. We encourage most schools to perform their own random sample. We will return to the issue of when to draw a sample in the "When do I need to do it?" section of this document.

It is essential that schools select a random sample that is representative of their entire population receiving need-based aid. As we are directing schools to complete a verification process prior to disbursing aid to sampled students, FSA will allow schools to exclude aid recipients who apply late in the process from your sample. However, if a sizable proportion of your aid population (more than 20 percent) applies for and receives assistance after the first session of your academic year has begun, you will need to divide your sample across your multiple enrollment windows.

The first step in drawing a random sample is to create a list of all people in the population. There are multiple software packages (SPSS, SAS, Excel, even some aid processing systems) you can use to draw a random sample of 350 from this list. These tools vary in how simple they make the process, but all are essentially following the same conceptual steps. First they divide 350 (or any other desired sample size) by the total number of people on the list of everybody. Then, they multiply the result of this division by 100 to get the percentage of cases you need to sample. Next, they assign each person on the list a random numbers between 0 and 100. Finally they select all cases that have a random number equal to or less then the percentage of cases you need.

You do NOT need to have a complete list of aid applicants demonstrating financial need before you begin sampling. You DO need to have a realistic estimate for the ultimate number of applicants who would be on a complete list if you want to draw multiple random samples of your population as you receive ISIRs. The number of need-based aid recipients your school had last year should suffice for an estimated total. If you built your sample in this fashion, you must sample the same percentage of cases in each draw and ensure that each student be exposed to the risk of sampling only once.

It is desirable, to the extent possible; to exclude students who are denied or decline admission to your school from this list before the sample is drawn. This will maximize the number of the 350 applicants sampled who will have paid on information to analyze. See the "When do I need to do it?" section of this document for more information about excluding people who decide not to attend your school.

Finally, as you bring aid applications into your sample, keep track of whether or not each applicant would have been subjected to your institutional verification process. The method for entering this information into the online version of the Tool has not been finalized as of Fall 2003 and you may need to import this information into the Tool as a user-defined field.

Verify Before Disbursing Aid

Ideally, schools will confirm the information called for by the applicable (dependent or independent) federal verification worksheet for any student selected into the sample prior to disbursing aid to that student. Schools may, however, make an initial aid disbursement prior to completing verification. Schools that do not complete verification prior to disbursement face potential institutional liability for any over-award(s) of aid discovered that cannot be collected from the aid recipient(s).

Schools are not required to verify applicants who decide to attend another school, decide to forego college, or decide to attend your school without financial assistance. Therefore, the number of applicants that will need to supply this information may wind up being less than 350. We discuss ways to minimize this type of attrition in the "When do I need to do it?" section of this document, but schools should not worry about "losing" cases in this manner.

To the degree possible, schools should treat students selected into their random sample no differently than those selected for normal verification. Students do not need to be informed about

the reason why they need to supply confirmatory documentation of the information they supplied on their FAFSA.

Submit All Changes To the CPS

Schools may apply the same \$400 tolerance level used in federal verification when submitting changes to ISIR data detected during the sample. This tolerance applies to the result of adding adjusted gross income and untaxed income together and then subtracting federal taxes paid. If the difference in the results of this calculation using initial compared to confirmed information is \$400 or less, schools do not have to submit the new data through the CPS. This will allow schools to exclude changes to ISIR data that are unlikely to affect aid eligibility. All changes to the number of family members in college and household size need to be submitted.

Generally schools are only required to submit such changes to ISIR information if they result in a change to Pell Grant eligibility. However, in order to be able to analyze all of the meaningful changes detected in the sample, you will need to submit all of these changes through the CPS. This is the only way that an ISIR record reflecting that change will be generated and therefore be available for analysis

In order to access the correct ISIR transaction when it comes time to analyze the data, schools need to keep a record of all the transaction numbers for the ISIRs that were corrected based on the sample exercise. You will need this piece of information to ensure that the correct data is imported from the ISIR Data Mart. For purposes of analysis, any ISIR transaction that occurs after the sample based verification effort is completed should be ignored, even if it reflects an actual change in student circumstances.

Import Data and Apply Institutional Verification Profiles

One reason FSA is requiring schools to conduct a sample is to support meaningful analysis at the program level. FSA has not evaluated the impact of all QA Program schools verification efforts since the final data collection associated with the old methodology in 1999-2000.

As your database of up to 500 paired ISIR records is actually part of a single relational database being developed by the department, AIR will be able to "harvest" your information from behind the scenes. However, AIR does need you to import your data and complete the user setup information concerning your verification profiles prior to their data collection effort. At this point in time, the method for entering your institutional verification into the online analysis tool has not been determined. One option being pursued is implementing a query logic similar to that used in PC version of the Tool. If this turns out to be the case and a school has difficulty writing queries that reflect their institutional verification criteria, they should contact their regional representative for assistance. Schools should also keep track of the institutional verification status of the applications that are drawn into the sample. That is, would the ISIR in question be subjected to institutional verification if it had not been sampled? This will allow schools to import institutional verification status as a user-defined field. We will return to this topic in the "When do I need to do it?" section of this guidebook.

Analyze Your Data

The primary reason FSA is requiring schools to conduct the sample is to support more meaningful analysis with the Tool and strengthen verification efforts overall. If you do not take advantage of the enhanced analyses possible with verified sample data, you will be doing a lot of work for nothing. It is important for schools to carve out some time in the fall for specific staff members to reap the rewards of the work done during the spring and summer.

FSA recognizes that schools have limited time available for analysis. Therefore, the next version of the Tool, which schools will use to analyze their sample data, will include predefined reports that will allow schools to begin their analyses without going through a cumbersome set up process. Schools will still be able to customize their analyses to fit their needs, but FSA will be responding to school requests to make analyses that do not vary across schools more readily available in the Tool. FSA is particularly exited about the new "drill-down" capabilities being planned for the new online version. These enhancements will make analysis with the tool more intuitive then it has been in the past.

Apply the Results of your Analysis

The purpose of analyzing changes with the Tool is to make improvements in verification practices. Schools should explicitly plan for how they will apply the results of the analysis of changes in 2004-05 ISIR information to the verification procedures they will employ in 2005-06 or 2006-07. During this process schools should document and be ready to share the rationale for the enhancements they employ. Schools should also continue to work collaboratively with FSA to improve the ability of the Tool to produce the types of analysis that support improvements in verification.

WHEN DO I NEED DO TO IT?

FSA understands that schools will need flexibility in terms of timing the sample of their financial aid applications. We recognize that these steps could potentially complicate institutional recruitment efforts or call upon the time of otherwise committed staff members. Therefore, FSA is setting only two mandatory deadlines. Schools are required to complete a Sampling Plan Worksheet by January 15, 2004 and have their database ready for analysis (import ISIRs from Data Mart and specify and apply their institutional verification profiles) by November 30, 2004. Schools will customize their own intervening deadlines in their planning worksheet.

The table below provides schools with the broad timeframes available for completing the quality control sampling process. Note particularly that there is a seven-month window for drawing the sample and an eight-month window for collecting verification worksheets and submitting changes through the central processor. We discuss the factors schools should consider in deciding how to schedule their work

Table 4: Timeframe for Completing Seven Required Steps

| Step | Description | Timeframe |
|------|--|---|
| 1. | Complete Sampling Plan Worksheet online at http://ifap.ed.gov/quality assurance. | November and December 2003, Due January 15, 2004 |
| 2. | Randomly select at least 350 students (non-duplicate ISIR records) from your need-based aid applicant population. | January through July (The Tool's capacity to draw a random sample online will be available June 27, 2004) |
| 3. | Compel each student drawn into the sample to complete the applicable federal verification worksheet by placing a hold on their aid disbursement until they comply. | January through August |
| 4. | Submit ALL changes stemming from the sample verification process through the central processor. Keep track of the transaction number for corrected ISIRs. | January through August |

| 5. | Import data and apply institutional | No later than November 30, 2004 |
|----|---|-----------------------------------|
| | verification profiles within the Tool. | |
| 6. | Analyze changes to ISIR information | October 17, 2004 through December |
| | within your sample with the ISIR | |
| | Analysis Tool. | |
| 7. | Apply the results of your analysis in | November through December |
| | improving your institutional verification | |
| | procedures. | |

Sampling Plan Worksheet

Schools should try to complete their sampling plan worksheet as soon as possible after attending an Electronic Access Conference. This online worksheet can be reached at www.edoceon.com. Schools should have received a userid and password from AIR during December. If they have not they should contact Amanda Huskey ahuskey@air.org for assistance. School representatives are encouraged to take advantage of their access to FSA and AIR personnel while in San Diego and New Orleans. We are eager to help you plan for a successful sample.

While it is important for schools to set up a schedule as soon as possible, they should take the time to craft a comprehensive plan. Establishing specific dates for reaching milestones is a critical component of this planning. The automated reminders generated from the online worksheet will only be helpful if they are based on a well thought out plan rather than a haphazard rush to meet the January 15, 2004 deadline.

Randomly Sample 350 Applicants

Schools should limit there sample to students who demonstrate financial need. That is have an EFC greater than the cost of attendance. Schools may choose to sample ISIR records as soon as they begin receiving them from the central processor in early January, or wait until some point later in the process. There are benefits to either strategy, depending on your population or routine verification process. Sampling from the very beginning lets schools avoid having to ask

students who were previously subjected to institutional verification for additional information. Multiple requests for confirmatory information have the potential of exasperating students and their parents. Sampling from the very beginning will also allow (force) schools to integrate the sampling exercise into their normal operations and spread the burden imposed across the spring and summer. This type of integration (if feasible) may make it easier for schools to manage the work imposed by the sample.

Conversely, waiting to sample will allow schools to remove some of the applicants who will not be receiving aid at their school from their sampling frame. As the spring progresses, schools will be increasingly able to identify applicants who will wind up attending their school in the fall. Schools will make offers of admissions to a subset of applicants. A subset of these admitted students will choose to accept admission at your school. Waiting until the final roster of students is clearer minimizes the proportion of sampled ISIRs that will drop out of the population because they do not receive aid at your school.

If waiting is not practical, schools may, but are not required to, increase the sample size to account for an expected level of attrition. For example, if only half of the students from whom a particular school received an ISIR file from last year ended up attending in the fall, then a school might want to double their sample size to 700. This would help ensure that the school would have plenty of data to analyze in the fall after matriculation decisions work themselves out. The table below provides the number of cases that should be initially sampled if a school wants to have 350 cases to analyze. Remember you will be only able to analyze 500 ISIR records in the tool at any given time, but if you wind up with more than 500 verified records the Tool itself will be able to randomly exclude cases to fit within the limit.

Table 5: Estimated sample size needed in order to ensure 350 ISIRs for analysis

| Percentage of applicants who wind up receiving aid | "Inflated" sample |
|--|-------------------|
| 25% | 1400 |
| 33% | 1061 |
| 50% | 700 |
| 67% | 525 |
| 75% | 467 |
| 90% | 389 |

Schools should consider the following questions in deciding when to sample.

- When does institutional verification begin?
- What information does institutional verification confirm?
- How readily could the processing of randomly sampled applicants be integrated into existing verification efforts?
- When is information on admissions and acceptance available to the financial office?

There is no risk of having to make a second request for information from a previously verified student until institutional verification actually begins. If schools do not begin their institutional verification process until after some of the enrollment decisions are made, it would seem foolish not to use this information to restrict the sampling frame to only those still "at risk" of receiving aid.

If institutional verification confirms all the information requested by the federal verification worksheets, there will be no need to re-contact previously verified students who are subsequently drawn into the sample. Therefore, such schools are free to wait until the aid recipient population becomes quite clear, unless they want to integrate the sampling process into their normal operations for administrative reasons.

Depending upon the system schools use to process aid, it might be quite easy or nearly impossible for schools to integrate the sample into their normal operations. Integrating the sample would be like adding a randomly generated verification flag to an existing institutional verification system.

Finally, schools will need data on admission and acceptance decisions no later than June if they want to use this information to restrict their sample frame. Schools need to be sure to leave enough time to verify ISIR information from selected students before they need to disburse aid in the fall. If data will not be available by June or if the information will be extremely sketchy at this point in time, there is no sense waiting for it.

Verify Before Disbursing Aid

FSA requires schools to confirm the information called for by the applicable (dependent or independent) federal verification worksheet information for any student selected into the sample. FSA strongly encourages schools to do this prior to disbursing aid to these students. FSA's pilot study found that collecting the extra verification of the ISIR values was the most labor-intensive aspects of sampling, so schools should plan accordingly. When asked to provide an estimate of staff time devoted to collecting federal verification worksheets, pilot schools said they devoted between 2 to 6 weeks of FTE labor to this process.

A few of the pilot schools underestimated the amount of time this would take and were therefore unable to complete the exercise prior to disbursing aid. Failing to complete the verification process by the time classes start in the fall will not create "statistical problems," but may result in adjustments to aid awards after initial disbursements have been.

Schools are advised to schedule at least eight weeks of (actual) time to contact sampled students, collect completed federal verification worksheets, and resolve any discrepancies with existing ISIR data. This schedule assumes that at least one person in your aid office will be able

to devote the majority of their time (at least half time) to this activity. If you are not planning to integrate the sample into your aid processing system, you will probably conduct most of the data verification during the summer months. Remember to allow for staff vacation plans when establishing your schedule.

Submit All Changes To the CPS

In order to be able to analyze all of the meaningful changes detected during the sample, you will need to submit to the Central Processing System (CPS) any change from initial ISIR information uncovered by the collection of federal verification worksheets. Only changes that exceed the federal verification \$400 threshold need to be submitted. See page 18 of this document for more detail.

You will need to keep track of the ISIR transaction number containing the correct information for later importation into the Tool. Therefore, you may find it helpful to hold back in submitting the corrections to ISIR data stemming from the sample to the CPS, until you can to so collectively. This will make it easier to locate the transaction numbers for the corrected "paid on" ISIRs, as they will all be from a relatively short time window. The Data Mart will store all 2004-05 ISIR data for the school, but having the specific transaction number of the paid on transaction will allow schools to import the right information for analysis. If a review of federal verification worksheets reveals no need to correct information, the "corrected" paid on transaction number is the same as the initial ISIR transaction number.

Import Data and Apply Institutional Verification Profiles

Prior to November 30, 2004, schools will have to a) import ISIR data into the Tool, and b) specify and c) apply their verification profiles. The Tool is scheduled for release on October

17, 2004. As AIR staff will have administrative rights to your online data, you will not have to go through the cumbersome process of "sending" your data in.

If a school is having difficulty writing queries that reflect their institutional verification criteria, it should contact its regional representative for assistance.

Analyze Your Data

FSA estimates that a thorough analysis with the Tool will take at least a week or two of staff time. Schools should strive to identify a specific window of time during late October or November when staff member(s) can devote a good deal of their time to this analysis. The Tool is scheduled for release on October 17, 2004. Schools should time their analysis in order to allow enough time to implement quality improvements for the subsequent award year.

Apply the Results of Your Analysis

As discussed above, schools need to schedule their analysis activities to allow implementation time for quality improvements. Activity guides for the current 2003-04 PC version of the ISIR Analysis Tool are currently available online at http://ifap.ed.gov/quality assurance. The types of analysis possible in the web-based version of the Tool being prepared for 2004-05 will be patterned after the current PC version. If changes in the web-version of the Tool warrant, the activity guides will be revised.

To ensure that an adequate amount of time is available, schools should estimate how much time it would take them to implement a moderate change to their verification system. By moderate change we mean the addition of a new verification criteria or a major revision to an existing one. Having an estimate for the amount of time a quality improvement of this magnitude takes will allow schools to schedule their analysis appropriately.

Summary Chart of Due Dates

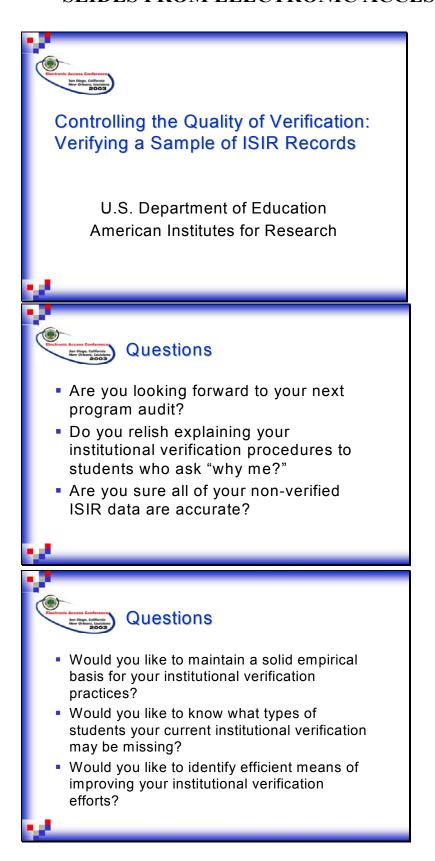
FSA recognizes that schools need flexibility in timing of their sampling activities. While we encourage each and every QA participant to tailor their implementation of the new sampling requirement in such a way as to minimize the disruption to the other activities going on in their financial aid offices, there are times when each activity needs to be done. The following table provides these deadlines.

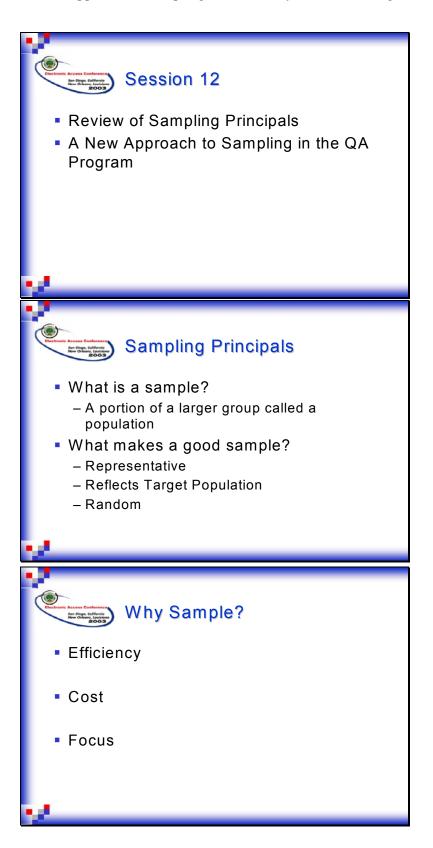
Table 6: Summary Chart of Due Dates

| Activity | Deadline |
|---|---------------------------------|
| Sampling Plan Worksheet | January 15, 2004 |
| Draw sample of at least 350 ISIRs | July 31, 2004 |
| Collect verification worksheets | In time to disburse aid on time |
| Submit all ISIR changes to CPS | In time to disburse aid on time |
| Import data and apply verification profiles | November 30, 2004 |
| Analysis of changes to ISIR data | December 15, 2004 |
| Apply results of analysis | Start of 2005-06 verification |

The only exception to these deadlines would be for schools with rolling admission and therefore multiple samples. In schools that are doing multiple samples, these deadlines apply only to their initial data collection effort prior to their first disbursement of Title IV aid.

SLIDES FROM ELECTRONIC ACCESS CONFERENCE







How is sampling relevant in a financial aid context?

- Schools are accountable for the aid they disburse.
- Institutional verification efforts target the groups thought to be most prone to error.
- No way to know about the accuracy of non-verified ISIR information.
- Confirming the accuracy of data in a sample of ISIRs would allow you to more fully assess your verification procedures.



Possible Sampling Strategies

- Simple Random Sampling
- Stratified Random Sampling
- Systematic Sampling



Simple Random Sampling Steps

- Sampling Frame list of population members
- 2. Determine Population Size
- 3. Determine Sample Size
- 4. Determine sampling probability (#3 ÷ #2)
- 5. Generate a random number of every case
- 6. Select cases with random numbers less than or equal to the sampling probability



- Sample of 5 blue cards
 - population = 45 cards
 - cards range from 3 to 7 (nine each)
 - Population average = 5
- Sample of 5 yellow cards
 - population = 45 cards
 - cards range from 1 to 9 (five each)
 - Population average = 5



New Approach To Sampling in the QA Program

- Background
- Why do I have to sample?
- What do I have to do?
- When do I have to do it?



Background

- Participants in the QA Program have regulatory relief from following the Secretary's (CPS) verification edits
- These schools develop their own institutional verification criteria based on analysis of their own data



QA Program Methodologies

- Old methodology
 - October "documented" sample
 - Readings-based software
- Current methodology
 - ISIRs generated during normal processing
 - ISIR Analysis Tool (PC-based)



QA Program Monitoring

- New methodology
 - Biannual verification of a sample of least 350 ISIRs prior to disbursement
 - Biannual analysis of ISIRs generated during normal processing
 - ISIR Analysis Tool (Web-based)



Why Do I Have to Sample?

- You cannot know the accuracy of ISIR information that is not verified
- Analysis using data from normal aid processing can identify ways to make verification more efficient
- But cannot identify ways to make verification more accurate



- Complete Sampling Plan Worksheet online at http://ifap.ed.gov/qualityassuranc
- Randomly select at least 350 non-duplicate ISIRs from your need-based aid applicant population
- Compel each sampled student to complete a federal verification worksheet by placing a hold on their aid disbursement
- Submit ALL changes to ISIR information stemming from the sample through the central processor



- Import data and apply institutional verification profiles in the online version of Tool.
- Analyze changes in ISIR information detected in sample.
- Apply results of analysis to improvements in institutional verification profiles.

When Do I Need to Do It? Son Diego, California New Orleans, Louisian 2003 Activity Deadline Sampling Plan Worksheet January 15 Draw sample of ISIRs July 31 Collect verification worksheets on time

In time to disburse aid Submit all ISIR changes to CPS In time to disburse aid on time Import data and apply verification profiles November 30 Analysis of changes to ISIR data December 15 Start of 2005-06 Apply results of analysis verification



Complete Sampling Plan Worksheet

- Online planning tool on QA website
- Email reminders (nagging)
- FSA will use to monitor collective progress and identify assistance needs
- Timeframe: November 2003 January 2004
- Deadline: January 15, 2004



Randomly Sample 350 ISIRs

- At least 350
- Why more?
 - attrition
 - statistical power
- The online ISIR Analysis Tool will have a limit of 500 pairs
- You can use the Tool to draw a sample, but not until June 27, 2004



Randomly Sample 350 ISIRs

- Population of interest need-based aid recipients – is "emerging"
- If practical remove
 - applicants who are not admitted
 - applicants who decline admission
 - applicants who decline financial aid



Randomly Sample 350 ISIRs

- Rolling admissions
 - > 20% apply for aid after fall disbursement
 - Spread 350 cases in sample proportionally across the year
 - Deadlines apply only to fall cases



Randomly Sample 350 ISIRs

Simple Random Sample Steps

- Sampling Frame list of SSNs of aid applicants with "potential" to receive needbased aid
- 2. Determine Population Size if need be estimate for whole sampling window
- 3. Determine Sample Size 350 or more
- 4. Determine sampling probability (#3 ÷ #2)
- 5. Generate a random number of every case
- Select cases with random numbers less than or equal to the sampling probability



Randomly Sample 350 ISIRs

Final Product

- Electronic list(s) of SSN and first two characters of last name of applicants selected into sample
- "Optional" transaction number important for paid on transaction
- Keep track of initial institutional verification status in a separate file



Consider the Following in Deciding When to Randomly Sample 350 ISIRs

- When does institutional verification begin?
- What information does institutional verification confirm?
- Is it possible to integrate sample verification with existing verification efforts?
- When will admission and acceptance decisions be known?



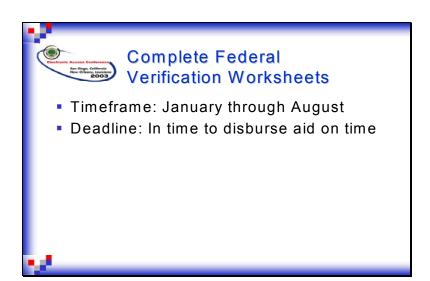
Randomly Sample 350 ISIRs

- Timeframe: January through July
- Online Tool sampling component available June 27, 2004
- Deadline: July 31, 2004



Complete Federal Verification Worksheets

- Most labor intensive part of sampling
- Pilot schools spent between 2 to 6 FTE weeks completing this process
- Must be done before aid is disbursed
- Make the process as seamless to students as possible





Submit All Changes through CPS

- Usually only submit changes to ISIR information if Pell eligibility is affected
- But data used in analysis needs to reflect all changes
- Only way to get the right ISIRs in the data mart is to submit all corrections
- Keep track of transaction number of corrected ISIRs!



Submit All Changes through CPS

- Timeframe: January through August
- Deadline: In time to disburse aid on time



Import Data and Apply Verification Profiles

- FSA Data Mart will make finding the right ISIRs much easier
- Schools only need an SSN file and have the option of specifying a specific transaction number
- Attend Data Mart Session if possible for more detail



Import Data and Apply Verification Profiles

- Apply verification profiles to data
 - Write queries that mirror your criteria
 - Set institutional verification flag
 - Contact regional representative if you have difficulty doing this
- Timeframe: October and November
- Deadline: November 30, 2004



Analyze Changes to ISIR Data

- Richer, "what did we miss" analysis with sample data
- Enhanced analytic capacity of the online version of the ISIR Analysis Tool
 - Predefined reports
 - Drill-down capacity
- Set aside staff time for analysis



Analyze Changes to ISIR Data

- Timeframe: October 17, 2004 and beyond
- Deadline: December 15, 2004 (if institutional verification begins during January of 2005)

34



Apply Results to Institutional Verification

- What groups of students (if any) are your institutional verification missing?
- How can you efficiently expand your institutional verification profiles to target these students?
- What groups of students (if any) can you stop verifying?



Apply Results to Institutional Verification

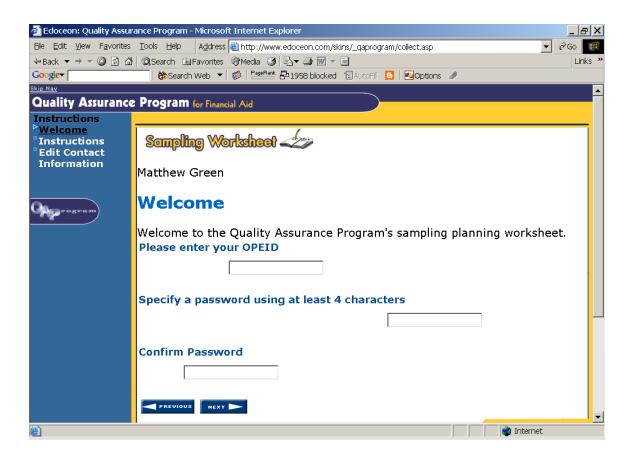
- Timeframe: November and December
- Deadline: Start of 2005-2006 institutional verification



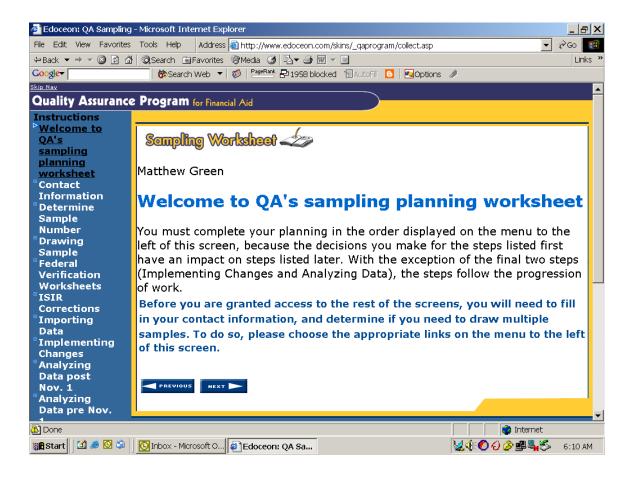


| A New Approach to Sampling in the Quality Assurance Program |
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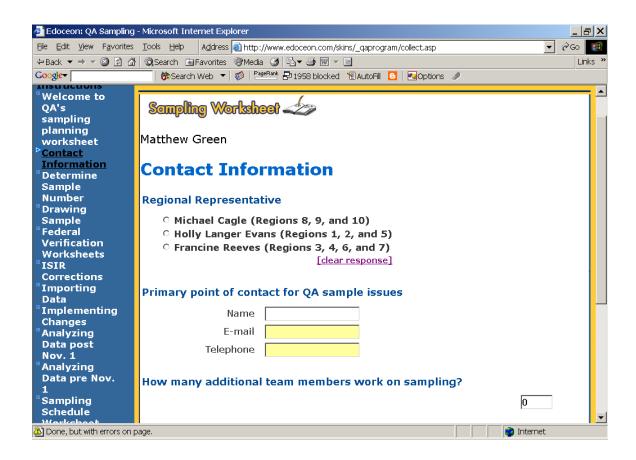
SCREEN SHOTS FROM SAMPLING WORKSHEET



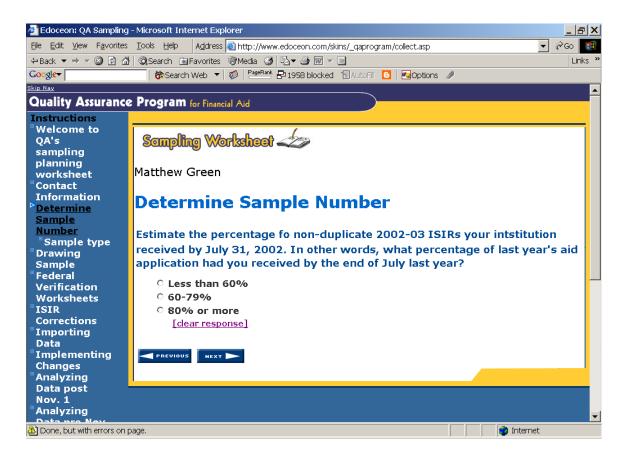
You will soon be able to link to the Sampling Worksheet logon page from the QA program website http://ifap.ed.gov/qualityassurance. Use your OPEID and choose your own password.



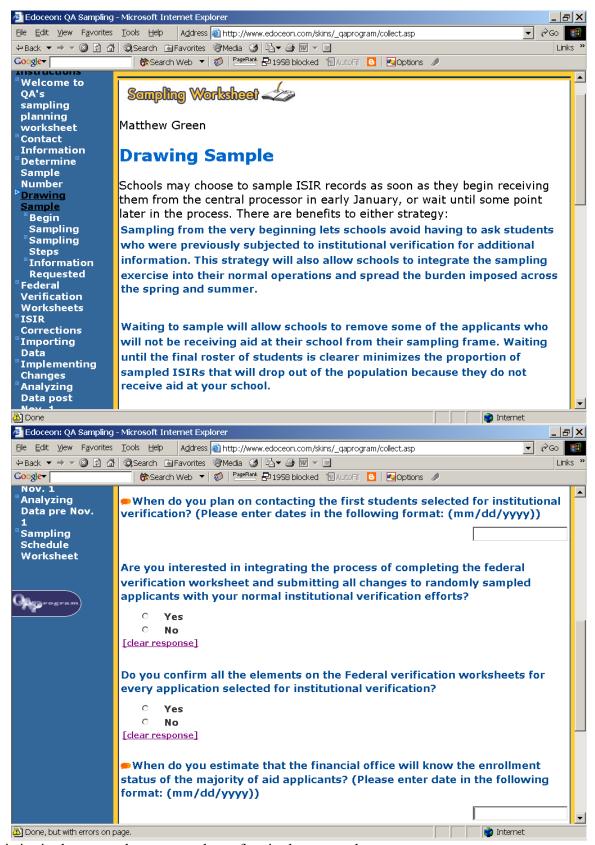
Provide the information requested as you work down the list in the left hand column. The worksheet is cumulative. That is, the answers you supply in the initial steps will have implications for later activities. Please provide the information in order.



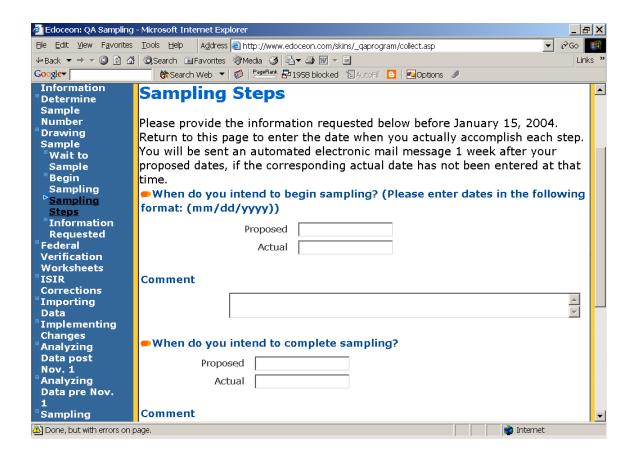
Identify your regional representative, provide contact information, and indicate the size of your QA sampling team.



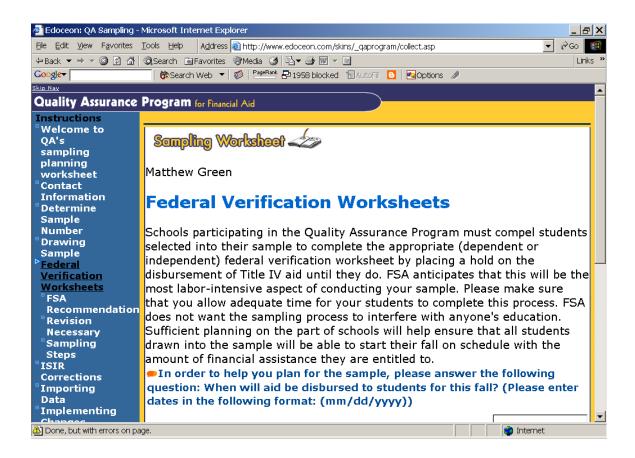
Schools who anticipate receiving 80 percent or more of their aid applications prior to July 31 should draw a single sample. Schools who receive less than 80 percent of their applications by this date should partition their sample. By clicking on the appropriate radio button and clicking on next, the user will be told to draw a single sample or how to divide up the 350 sample size between two different groups of students.



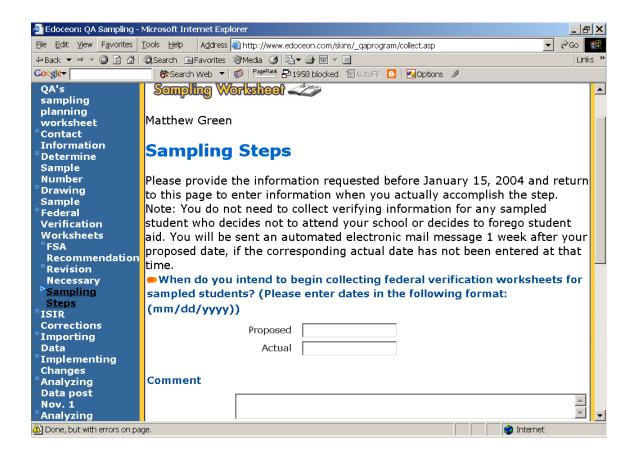
This is single screen, but was too large for single screen shot.



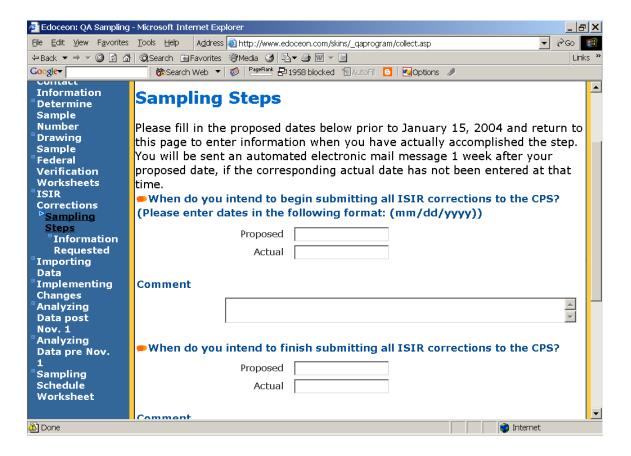
After answering a series of questions to help guide the timing of your sample, you will be asked to propose a beginning and ending date for drawing a sample prior to January 15. Please return to this screen and complete the actual boxes when sampling actually begins and ends. If you are doing multiple samples, please respond for your first sample only.



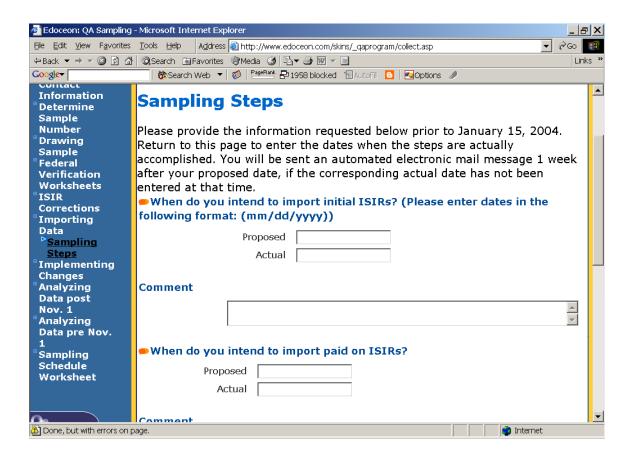
Collecting federal verification worksheet information is the most time consuming process, the sampling worksheet website is designed to help you carve out enough time. Note that ensuring that there will be enough time to complete this process may involve revisiting your sampling dates.



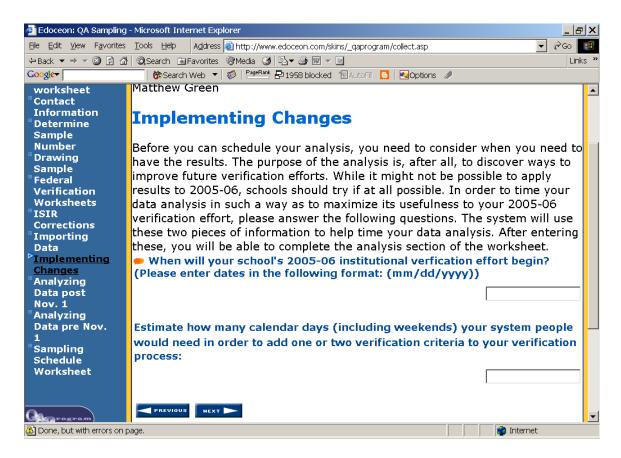
Just as was the case for setting sampling timelines, you are asked to supply proposed dates for collecting federal verification worksheets by January 15. Return to the site to indicate when the step is actually completed.



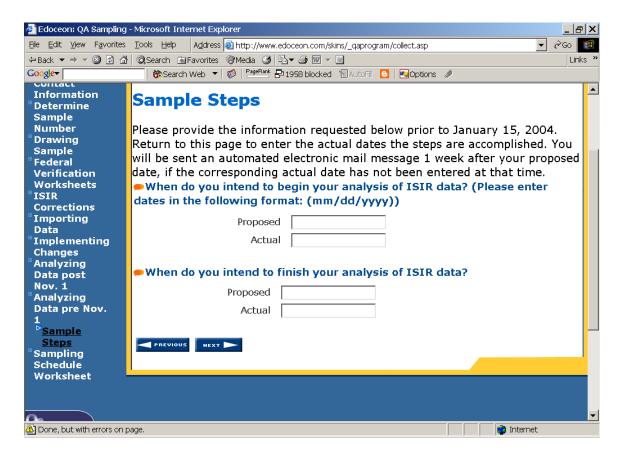
The next step is submitting all ISIR corrections to the CPS. You are asked to supply proposed dates by January 15. Return to the site to indicate when the step is actually completed.



The next step is importing ISIR records into the online tool. You are asked to supply proposed dates by January 15. Return to the site to indicate when the step is actually completed. Note that you are required to complete this process by November 30, 2004.



In order to plan your analysis you will need to consider how much time you will need to implement any changes to your institutional verification procedures prompted by your findings. They system helps you consider this issue.



You are asked to supply proposed dates for your analysis by January 15. Return to the site to indicate when the step is actually completed.

The sampling schedule worksheet is currently under construction. This screen will summarize the proposed dates provided on the preceding screens in a printer friendly format.